United States Environmental Protection Agency
Region 4
Atlanta Federal Center
61 Forsyth St. SW, Atlanta, GA 30303-8960

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MEMORANDUM (Draft)

SUBJECT: Comments on the Data Gap Investigation at the International Paper Site (LCRD site) in Wiggins, MS

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THROUGH: Tim Frederick, Chief
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TO: Maher Budeir
Project Manager

I have completed the review of the Data Gap Investigation report, as well as several supporting documents. Two new wells, WC-56 and 57, were installed as proposed in the work plan. Although no DNAPL was found in the two new borings, elevated concentration of naphthalene was detected at the bottom of the Citronelle formation or just above the confining unit, where the well WC-57 screen was placed. Contamination at WC-57 complicates the analysis of plume stability, since this well was not included in delineating the plume. Also, it brings the question that the wells at the downgradient property boundary are too shallow to intercept the contaminated groundwater, as evidenced from the two new wells, WC-56 and 57. Further investigation is necessary to delineate the plume extent as well as plume trend at these new wells and around the property boundary before conclusions on plume stability can be reached. It is also not clear how thick the confining unit is between the Citronelle aquifer and the Pascagoula formation, since the boring did not continue deeper into the Pascagoula formation. However, it appears from the images of the boring log that the thickness of the tight clay unit (aquitard) at the top of the Pascagoula formation is possibly much thinner than is presumed. Following are my detailed comments on the report:

1. A slight odor was detected at 75 to 85 ft depth in both new borings; however, no soil samples were collected to test for soil contaminants. Were PID readings recorded in that zone? There may be pockets of residual sources in the clay lenses present in the subsurface. Knowing the soil concentrations of potential contaminants will be useful to characterize the residual sources in the aquifer.

2. WC-56 and WC-57 data proves that groundwater contamination is not uniformly distributed through the depth of the aquifer. WC-40, which is one of the most contaminated wells, is deeper than WC-44 but at the same depth as WC-56 and shallower than WC-57. It is possible that the plume is either diving deeper from WC-40 or the contamination is higher at greater depth around WC-40. The latter could not be confirmed, since none of the surrounding wells (e.g., WC-45, 46, and 47) continued to the bottom of the aquitard found at WC-57. It is possible that the naphthalene concentration is higher underneath the well screen of WC-40 and may have NAPL presence at or above the Pascagoula formation. It is necessary to have a boring that goes deeper to the Pascagoula formation, similar to WC-57.

3. WC-44 is a shallow well. It is screened above the contaminated layer, as observed in WC-57. Therefore, this well should be excluded from drawing contour maps of the contaminants. Also, another well at the same depth as WC-57 should be installed near the property boundary around WC-44.

4. What wells are called “deep well”? Are these the wells located at or below the Pascagoula formation? Please clarify this definition and make sure all the wells listed in the document are actually “deep wells”. For example, WC-43 seems to be located just above the Pascagoula formation. Please check the rest of the wells and edit as necessary. Also, it needs to be confirmed that there is no contamination in the “deep wells”.

5. All the extraction wells, e.g., WP-1,2,3, and 4P, are located in the deep Pascagoula formation, while all the monitoring wells are located at shallower depth (which is the Citronelle aquifer). What is the reason for extracting water from the deeper formation, while the contamination is monitored at the Citronelle aquifer?

6. Include screen elevation and formation where the well screens are located in Table 5. All the wells listed in Table 5 are not located in the same aquifer.

7. Monitoring wells downgradient from the closed pond should be measured and contoured separately to evaluate the groundwater gradient in that area. There is a possibility that groundwater in that area could be moving towards the east. Also, any leakage from the closed pond should be further investigated.

If you have any questions, please feel free to email me at ahsanuzzaman.noman@epa.gov or call me at (404)562-8047.